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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Application No. Applicant(s) 10/773.092 PRILUTSKY ET AL. Office Action Summary Examiner Art Unit Carramah J. Quiett -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS. WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). Status 1) Responsive to communication(s) filed on 13 July 2009. 2a) ☐ This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-32.57-85 and 89-104 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) _____ is/are allowed. 6) Claim(s) 1-32,57-85 and 89-104 is/are rejected. 7) Claim(s) _____ is/are objected to. 8) Claim(s) _____ are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) ☐ The drawing(s) filed on 04 February 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. Attachment(s) 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)

Paper No(s)/Mail Date _

Notice of Draftsperson's Patent Drawing Review (PTO-948)
 Information Disclosure Statement(s) (PTO/SB/08)

Paper No(s)/Mail Date.

6) Other:

Notice of Informal Patent Application

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

 A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/13/2009 has been entered.

Response to Amendment

2. In the submission filed 07/13/2009, the Applicant has indicated that Claims 1-32, 57-85 and 89-103 are pending. However, in the submission filed 02/17/2009, added a new claim 104. Respectfully, did the Applicant intend to cancel claim 104? If so, the Applicant must officially do so. For Office Action purposes, the Examiner will (for now) consider claims 1-32, 57-85 and 89-104 to be pending, with claim 104 as being unamended.

Response to Arguments

 Applicant's arguments filed 07/13/2009 have been fully considered but they are not persuasive.

Applicant asserts that the combinations of Benati et al. as modified by Malloy

Desormeaux, Nicponski, and Naqvi do not disclose "modifying an area within a digitized image indicative of a red-eye phenomenon based on an analysis of a subsample resolution representation of selected regions of said digitized image." However, the Examiner respectfully

disagrees. In figs. 2-4, Benati et al. as modified by Malloy Desormeaux teaches the analyzing and modifying limitation as recited in the independent claims by inputting an image, defining a spatial region, detecting the phase, fixing the phase, and outputting a corrected image. In particular. Benati analyzes segmented regions of the eye where the red-eye phenomenon occurs during the detection phase and further analyzes the selected region in the fix phase. The fix phase of Benati is divided in the following two sections: scaling and correcting. The scaling section 370 is where it is determined as to which resolution the image will be fixed. A new bit map (scaledClassMap) is created according to the particular resolution (i.e. same/current resolution, lower resolution, or higher resolution). Each segment contained within the classmap bit map is examined. After the resolution scaling is completed, the correcting section corrects the red eve phenomenon based on the eve color defect pixel from the scaling section. Please see figs. 2-4 & 9-11; and read col. 3, lines 24-62; col. 4, line 51 - col. 5, line 36; col. 5, line 38 - col. 6, line 15; col. 7, line 15 -col. 9, line 20. Also, for pre-capture image, please read Malloy Desormeaux, col. 16, line 48 -- col. 17, line 35. Accordingly, the Examiner maintains the rejections to claims 1-32, 57-85 and 89-104.

Claim Rejections - 35 USC § 103

- The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- Claims 1-27, 30-32, 57-77, 80-85, and 89-104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benati et al. (U.S. Pat. #5748764) in view of Malloy Desormeaux (U.S. Pat. #6.501.911).

For claim 1, Benati discloses a digital apparatus comprising a red-eye filter for modifying an area within a digital image indicative of a red-eye phenomenon based on an analysis of the subsample resolution representation of selected regions of said digital image, wherein the subsample resolution representation comprises an eye region suspected as indicative of red eye (col. 5, lines 27-36), and wherein a degree of said subsampling is based on a complexity of calculation of the red-eye filter (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15) and on an analysis of meta-data (bit map) information (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45). However, Benati does not expressly disclose subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image.

In a similar field of endeavor, Malloy Desormeaux discloses subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image (col. 16, line 48 -- col. 17, line 35). In light of the teaching of Malloy Desormeaux, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus with subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image in order to adjust the brightness of the image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For claim 2, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein the analysis is performed at least in part for determining said area (col. 3, line 63 – col. 4, line 16).

For claim 3, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein the analysis is performed at least in part for determining said modifying (col. 3, line 63 – col. 4, line 16).

For claim 4, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said selected regions of said digitized image comprise the entire image (col. 3, lines 24-45).

For claim 5, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said selected regions of said digitized image comprise multi resolution encoding of said image (col. 7, lines 8-35). Also, see fig. 4.

For claim 6, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein at least one region of the entire image is not included among said selected regions of said image (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21).

For claim 7, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said analysis is performed in part on a full resolution image and in part on a subsample resolution of said digital image (col. 7, lines 8-35). Also, see fig. 4.

For claim 8, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, further comprising a module for changing the degree of said subsampling (col. 4, line 51 – col. 5, line 21).

For claim 9, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined empirically (col. 4, lines 6-16).

For claim 10, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on a size of said image (col. 7, lines 8-35).

For claim 11, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on a size of selected regions of the image (col. 7, lines 8-35).

For claim 12, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on data obtained from the camera relating to the settings of the camera at the time of image capture (figs. 2-4; col. 3, lines 24-62; col. 4, lines 17-45).

For claim 13, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 12, wherein the data obtained from the camera includes an aperture setting or focus of the camera, or both (Malloy Desormeaux col. 16, line 48 – col. 17, line 35).

For claim 14, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 12, wherein the data obtained from the camera includes the distance of the subject from the camera (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For claim 15, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on digitized image metadata (bit map) information (col. 4, lines 17-45).

For claim 16, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 8, wherein said modifying the area is performed including the full resolution of said digital image (col. 7, lines 8-35).

For claim 17, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 8, wherein said red-eye filter comprises of a plurality of sub filters (fig. 2, col. 3, lines 46-62).

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For claim 18, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 17, wherein said subsampling for said sub filters operating on selected regions of said image is determined by one or more of the image size (fig. 2, col. 3, lines 46-62; col. 7, lines 8-35), suspected as red eye region size (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21), filter computation complexity (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15), empirical success rate of said sub filter (col. 4, lines 6-16), empirical false detection rate of said sub filter (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21), falsing probability of said sub filter (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21), relations between said suspected regions as red eye, results of previous analysis of other said sub filters, or combinations thereof. (col. 5, line 38 – col. 6, line 15).

For claim 19, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, further comprising memory for saving said digitized image after applying said filter for modifying pixels as a modified image (col. 3, lines 24-35).

For claim 20, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, further comprising memory for saving said subsample resolution representation of said image (col. 3, lines 24-35).

For claim 21, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said subsample resolution representation of selected regions of said image is determined in hardware (col. 3, lines 24-46).

Claims 22, 23, 24, 25, and 26 are method claims corresponding to method claims 5, 7, 10, and 11 respectively. Therefore, claims 22, 23, 24, 25, and 26 are analyzed and rejected as previously discussed with respect to claims 7, 8, 9, 10, and 11, respectively.

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For claim 27, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 23, wherein said changing the degree of said subsampling is determined based on a complexity of calculation for said filter (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15).

Claims 30 –32 are apparatus claims corresponding to apparatus claims 16-18, respectively. Therefore, claims 30-32 are analyzed and rejected as previously discussed with respect to claims 16-18, respectively.

For claim 57, Benati teaches one or more processor-readable media having code embedded therein for programming a processor to perform a method of filtering a red eye phenomenon from a digital image comprising a multiplicity of pixels indicative of color, the method comprising using a processor in determining whether one or more regions within a subsample resolution representation of said digitized image are suspected as including red eye artifact wherein the subsample resolution representation comprises an eye region suspected as indicative of red eye, and wherein a degree of subsampling is based on a complexity of calculation of the red-eye filter (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15) and on an analysis of meta-data (bit map) information (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45). However, Benati does not expressly disclose subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image.

In a similar field of endeavor, Malloy Desormeaux discloses subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image (col. 16, line 48 -- col. 17, line 35). In light of the teaching of Malloy Desormeaux, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the

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apparatus with subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image in order to adjust the brightness of the image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For claim 58, Benati, as modified by Malloy Desormeaux, teaches the one or more processor-readable media the method of claim 57, wherein the method further comprising varying a degree of the subsampling for each region of said one or more regions based on said image (col. 3, lines 24-45).

For claim 59, Benati, as modified by Malloy Desormeaux, teaches the one or more processor-readable media the method of claim 57, wherein the method further comprising generating the subsample resolution representation based on said image (col. 4, line 51 – col. 5, line 21).

For claim 60, Benati, as modified by Malloy Desormeaux, teaches the one or more processor-readable media the method of claim 57, wherein the method further comprising generating the subsample resolution representation utilizing a hardware-implemented subsampling engine (col. 3, lines 46-62).

For claim 61, Benati, as modified by Malloy Desormeaux, teaches the one or more processor-readable media the method of claim 57, wherein the method further comprising testing one or more regions within said subsample resolution representation determined as including red eye artifact for determining any false redeye groupings (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21).

For claim 62, Benati, as modified by Malloy Desormeaux, teaches the one or more processor-readable media the method of claim 57, wherein the method further comprising

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(c) associating said one or more regions within said subsample resolution representation of said image with one or more corresponding regions within said image (col. 4, line 51 – col. 5, line 21); and

(d) modifying said one or more corresponding regions within said image (col. 7, lines 8-35).

For claim 63, Benati, as modified by Malloy Desormeaux, teaches the one or more processor-readable media the method of claim 57, wherein the method wherein the determining comprises analyzing meta-data information including image acquisition device-specific information (col. 4, lines 17-45).

For claim 64, Benati, as modified by Malloy Desormeaux, teaches the one or more processor-readable media the method of claim 57, wherein the method further comprising analyzing the subsample resolution representation of selected regions of said digitized image, and modifying an area determined to include red eye artifact (col. 3, lines 24-45).

Claims 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76 and 77 are the one or more processor-readable media claims corresponding to apparatus claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 19, 20, and 21, respectively. Therefore, claims 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76 and 77 are analyzed and rejected as previously discussed with respect to claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 19, 20, and 21, respectively.

Claims 80-82 are the one or more processor-readable media claims corresponding to apparatus claims 16-18, respectively. Therefore, claims 80-82 are analyzed and rejected as previously discussed with respect to claims 16-18, respectively.

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For claim 83, Benati, as modified by Malloy Desormeaux, teaches the apparatus of claim 1, wherein the metadata information comprises image acquisition device-specific metadata (col. 4, lines 17-45).

For claim 84, Benati, as modified by Malloy Desormeaux, teaches the apparatus of claim 83, wherein the metadata information comprises digitized image metadata (col. 4, lines 17-45).

Claim 85 is a method claims corresponding to method claim 84. Therefore, claim 85 is analyzed and rejected as previously discussed with respect to claim 84.

For claim 89, Benati teaches the one or more processor-readable media the method of claim 57, wherein the analysis of metadata information comprises analysis of digitized image meta-data (col. 4, lines 17-45).

Claims 90-91 are the one or more processor-readable media claims each corresponding to method claim 89. Therefore, claims 90-91 are analyzed and rejected as previously discussed with respect to claim 89.

For claim 92, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on histogram data obtained from said pre-capture image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For claim 93, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on color correlogram data obtained from said pre-capture image (Malloy Desormeaux col. 16, line 48 — col. 17, line 35).

For claim 94, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on global luminance or white balance

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image data, or both, obtained from said pre- capture image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

For claim 95, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on face detection analysis of said precapture image (Benati col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15) (Malloy Desormeaux col. 16, line 48 – col. 17, line 35).

For claim 96, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is based on determining pixel regions with a color characteristic indicative of redeye (Benati col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15).

For claim 97, Benati, as modified by Malloy Desormeaux, discloses the apparatus of claim 1, wherein said image processing analysis is performed in hardware (Benati col. 3, lines 24-46).

Claims 98-103 are the one or more processor-readable media claims corresponding to apparatus claims 90-97. Therefore, claims 98-103 are analyzed and rejected as previously discussed with respect to claims 90-97.

For claim 104, Benati teaches a method of filtering a red eye phenomenon from a digital image comprising a multiplicity of pixels indicative of color, the method comprising using a processor for determining whether one or more regions within a subsample representation of said digital image are suspected as including red eye artifact, wherein the subsample representation comprises an eye region suspected as indicative of red eye (col. 5, lines 27-36), and wherein a degree of said subsampling is based upon a complexity of calculation of the red-eye filter (col. 4,

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line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15) and on an analysis of meta-data (bit map) information (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45). However, Benati does not expressly disclose subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image.

In a similar field of endeavor, Malloy Desormeaux teaches subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image (col. 16, line 48 -- col. 17, line 35). In light of the teaching of Malloy Desormeaux, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method with subsampling is based on data obtained from the camera relating to image processing analysis of a precapture image in order to adjust the brightness of the image (Malloy Desormeaux col. 16, line 48 -- col. 17, line 35).

Claims 28 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benati
et al. (U.S. Pat. #5748764) in view of Malloy Desormeaux (U.S. Pat. #6,501,911) as applied to
claim 5 above, and further in view of Nicponski (U.S. Pat. 5974189).

For claim 28, Benati teaches the apparatus of claim 1 further comprising determining said subsample resolution representation (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45). However, Benati does not expressly teach determining said subsample resolution representation using spline interpolation.

In a similar field of endeavor, Nicponski teaches determining said subsample resolution representation using spline interpolation (col. 7, lines 27-31). In light of the teaching of Nicponski, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to modify the method using spline interpolation in order to enable improved enhancement effects on the image such as shadows, glows, etc. (Nicponski, Abstract).

Claim 78 is the one or more processor-readable media claim corresponding to apparatus claim 28. Therefore, claim 78 is analyzed and rejected as previously discussed with respect to claim 28.

Claims 29 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benati
et al. (U.S. Pat. #5748764) in view of Malloy Desormeaux (U.S. Pat. #6,501,911) as applied to
claim 5 above, and further in view of Naqvi et al. (U.S Pat. #5847714).

For **claim 29**, Benati teaches the apparatus of claim 1, further comprising determining said subsample representation (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45). However, Benati does not expressly teach determining said subsample representation using bi-cubic interpolation.

In a similar field of endeavor, Naqvi teaches determining said subsample representation using bi-cubic interpolation (col. 5, lines 4-6). In light of the teaching of Naqvi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method using bi-cubic interpolation in order to enable improved magnified destination image (Naqvi, col. 2, lines 3-5).

Claim 79 is the one or more processor-readable media claim corresponding to apparatus claim 29. Therefore, claim 79 is analyzed and rejected as previously discussed with respect to claim 29.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571)272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571)272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lin Ye/ Supervisory Patent Examiner, Art Unit 2622

/Carramah J. Quiett/ Examiner, Art Unit 2622 August 24, 2009